

L31 ANSWER 30 OF 32 CA COPYRIGHT 2003 ACS on STN
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TI Inhibition of wool follicle DNA synthesis by mimosine and related
4(1H)-pyridones
AU Ward, K. A.; Harris, R. L. N.
CS Div. Anim. Physiol., CSIRO, Blacktown, Australia
SO Australian Journal of Biological Sciences (1976), 29(3), 189-96
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DT Journal
LA English
AB L-mimosine (I) [500-44-7] inhibited thymidine-3H incorporation into sheep
skin slices in vitro at 0.2 mM, but had no effect on uridine-3H or
leucine-3H incorporation. The inhibition of thymidine-3H incorporation
was time dependent, 2 hr incubation being required for maximal inhibition
of DNA synthesis, and was readily reversible by removal of I from the
medium. When 14 related compds. were tested, the 3-hydroxyl-4-oxo
function appeared to be directly involved in DNA synthesis inhibition.
The amino acid side chain was not a toxophoric center, but changes in its
polarity affected the inhibitory activity. Apparently, the primary action
of I on the inhibition of wool biosynthesis in vivo is the inhibition of
follicle bulb cell DNA synthesis and consequently cell division.

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cell the binding const. of the chelator for Fe(III) becomes a dominant factor.